From World Virtual School to

World Digital School

From Continuity of Instruction to

Continuity of Innovation

AUG 2023

EXECUTIVE SUMMARY

The World Virtual School Project has been an ongoing effort in international schools for over 20 years, helping schools maintain continuity of learning during moments of crisis. The resources we developed proved useful during the COVID-19 pandemic, as schools shifted to virtual learning. In June 2023, the project leaders convened to adjust the project's goals. While pandemics, natural disasters, and military action remain relevant threats, there are also new risks emerging. School leaders are facing cyber security threats, a growing concern about the impact of technology on adolescent mental health, and the impact of artificial intelligence on schools and society.

We identified three goals for the project to focus on:

1. **Help schools create and sustain robust, resilient, and secure systems**
2. **Help schools remain agile and flexible in the face of change**
3. **Build professional development to accomplish the first two goals**

The global nature of the project allows our representatives to collect data from their regions and ensure that the project's ongoing focus addresses the needs of their regional schools. We publish and share curated resources to help achieve our goals. The project's members give presentations and workshops at regional conferences and offer virtual learning opportunities, such as synchronous and asynchronous webinars.

This year we will begin referring to this project as the World Digital School Project, indicating a shift in purpose away from facilitating readiness for virtual learning toward a purpose focused on leveraging digital systems to ensure safety, security, and innovation for learning.

OVERVIEW

The World Virtual School Project was launched in 2002 as the NESA Virtual School Project, because newly created learning management platforms offered schools the possibility of providing continuity of study, virtually, when local or global events would force schools to close.

What follows is an expression of perspectives and visions of the nine global technology leaders who came together for three intensive days of generative thinking about the future of the project in June 2023 at Marymount University in Arlington, Virginia.

This White Paper is designed as a working document to frame the narrative, outline future priorities, and describe an inventory of resources as reference for the Regional Education Officers at the Office of Overseas Schools and for the Executive Directors of the regional councils (AISA, AMISA, CEESA, EARCOS, ECIS, MAIS, NESA, and Tri-Association).

THE HISTORICAL CONTEXT OF THE WVS PROJECT

When the pandemic hit the world in 2020, American international schools were prepared to maintain continuity of instruction over the course of three years. During that time, depending on the school's location and public health situation, schools were either continuously closed for long stretches and/or open and closed for shorter times; sometimes selected students or entire classrooms required virtual learning from home for days or even weeks at a time. No country, community, or school had the same experience with the public health or policy challenges of the pandemic, and while the World Virtual School Project at the Office of Overseas Schools would not take credit for this systemic readiness, WVS efforts were central to assuring that virtually all assisted schools were practiced in virtual classroom routines and shared a common language relative to online learning.

So, what did the World Virtual Schools Project actually do?

In 2002, the NESA Virtual School Project (NVS) launched with six schools in the NESA region. They committed to using BlackBoard as a comprehensive learning management system. In 2007, NVS went global and morphed into the World Virtual School Project as technology leaders across all of the regions began leading conversations about continuity of instruction readiness in what was and still is a fast-changing technological context. By 2010, Moodle had become a more adaptable and flexible platform increasing accessibility and networking for member schools. By 2016, WVS went platform agnostic as schools demonstrated their independence and fluency by engaging a wide range of adaptable platforms that had come on the market. By 2020, WVS had over 100 schools participating in all regions across the globe.

Through platform pilots, annual meetings, sharing of resources, and regional and global networking, the World Virtual School Project provided member schools with strategies and support in developing and improving their capacity to provide online academic continuity over the course of short-term and long-term emergency circumstances, natural or man-made.

This project was based on the assumption that regional and global cooperation, collaboration, and coordination were central to system readiness.

Through more than 20 years of engagement, the schools that were best prepared to sustain continuity of instruction were the ones who:

- embraced the integration of relevant and effective online resources into their learning communities;
- collaborated regionally to share perspectives and methodologies, and to consider and nurture best practices;
- prioritized, through policies and practices, efforts to seek and employ reliable and sustainable means of assuring online academic continuity.

In the beginning, the project was primarily focused on technology. WVS provided secure servers, hosted in the USA, for schools to use for learning management systems (LMS) such as BlackBoard and Moodle. Initially, schools considered these tools to be backup solutions to be implemented in the event of evacuation or school closure. The project developed training tools and procedure documents. Examples of the best emergency continuity plans were shared, which helped each school develop their own plans.

These plans were put into action during some high-profile emergencies. Much was learned through evacuations in Pakistan and Syria, outbreaks of SARS and the Avian Flu, and the 2004 Indian Ocean earthquake and tsunami. Over time, the perception of the use of a learning management system shifted away from its purpose as an emergency backup system toward its practical application as a living virtual classroom platform. Schools embraced, sometimes all too slowly, electronic communications with students, and the LMS gradually became an integral part of the teaching and learning systems in schools. Also, over time, schools implemented a "cloud strategy," shifting their critical software off-campus to secure distributed hosting centers.

While the project's main goal of helping with emergency continuity of learning was still important, as schools made

this shift to the cloud and built greater capacity with software, offsite storage and the software licenses became less important for WVS to support. The annual meeting of school technology directors provided critical professional development as the project shifted to a more knowledge-focused model. The collection of "best practice" documents helped schools create proactive and comprehensive plans with the WVS mantra "Planning Builds Resiliency."

WVS schools came to see that continuity plans meant schools would not need to close. Weathering a "closure" through virtual continuity of operations and instruction plans would not only save money, it would support learning, preserve community, and provide flexibility.

The COVID pandemic was the ultimate test for the WVS collaborative. Unlike the regional flu outbreaks or military coups of the past, COVID affected all schools at practically the same time. And because it was 2020 (rather than 2002), schools around the world already had well-integrated learning management systems, they were already using virtual classroom spaces, they were networked and resourced, and they were prepared to continue to learn and innovate in response to local conditions.

Ultimately, the World Virtual School Project served as a responsive and supportive collaborative, contributing to school readiness in what is now understood to be the greatest test, at a global scale, to organizational agility and adaptability since World War II. WVS helped produce schools that had the know-how, the adaptability, and resilience to survive, thrive, and flourish.

Looking ahead, what's next for the World Virtual Project in order to assure future readiness across the globe in a historical context in which challenges and opportunities abound?

What does the next phase of cooperation, collaboration, and coordination look like for the leaders and schools involved with the World Virtual School Project?

2023 AND BEYOND, THE POST PANDEMIC CONTEXT

Following the COVID-19 Pandemic, we have seen a widespread re-assessment of, among many things, approaches to wellbeing, work, learning, inclusiveness, community, and organizational culture. At a global scale, the realities of global climate change, the rise of authoritarianism, and the spread of misinformation and disinformation, to name a few considerable challenges, are putting unprecedented pressures on our communities and institutions.

Further, historians and technologists are looking at the current technology-driven inflection point – signaled by, among other things, the rise and widespread socialization of artificial intelligence and machine learning – as a new turn for global political-economies, potentially a shift with implications on the scale and scope of the industrial and information revolutions. As new forms and practices emerge, it is essential for organizations to continue to learn and adapt. Schools must stay attuned and connected.

The World Virtual School Project will continue to support learning and practice in schools in three broad areas:

1. Help schools create and sustain robust, resilient, and secure systems: Enhancing cyber security and safe online systems and practices in schools. Maintaining up-to-date plans for Continuity of Learning.
2. Help schools remain agile and flexible in the face of change: Innovating practice to enhance teaching and learning in any mode – virtual, hybrid, or in-person. Addressing the growing challenges of digital citizenship, mental health, and artificial intelligence.
3. Build professional development to accomplish the first two goals: Promoting leadership in technology, providing development opportunities, and creating a pipeline to enhance diversity in future leaders. Helping to plan conferences and other professional development opportunities in our regions which support innovation, technology and agility.

The greatest tool we have to navigate uncertain and volatile moments is conversation. WVS has been a producer of relevant and responsive conversations regionally and globally, which have been the cornerstone of our collective capacity to coordinate, collaborate, and cooperate. WVS remains unwaveringly committed to upholding this commitment.

In June 2023, together with Regional Education Officer, Andrew Hoover, and facilitator John Mikton (International School of Geneva), nine technology leaders from across the globe came together to discuss and think forward regarding emerging priorities for our networked schools.

The nine leaders who convened in Virginia were:

Warren Apel, WVS Global Project Coordinator

Director of Technology, The American School in Japan, Tokyo

Felix Malombe, AISA WVS Representative

Educational Technology and Innovation Lead, Rusinga Schools Nairobi, Kenya

Vladmir Cruz, AMISA WVS Representative

IT Director at Graded - The American School of São Paulo, Brazil

Neven Soric, CEESA WVS Representative

Technology Director, American International School of Zagreb, Croatia

Charlotte Diller, EARCOS WVS Representative

Director of Technology, The International School of Kuala Lumpur, Malaysia

Gioia Morasch, ECIS WVS Representative

Associate Principal, Frankfurt International School, Germany

Juan Torres, MAIS WVS Representative

Database and Systems Administrator, American School of Madrid, Spain

Greg Clinton, NESA WVS Representative

Director of Technology and R&D, American International School Chennai, India

Luis Bernardo Olarte, Tri-Association WVS Representative

Director of Technology, Colegio Nueva Granada, Bogota, Colombia

These leaders identified and described the three goals listed below as the key focal points for regional conversations and planning in the coming year. The group also processed a new name for the World Virtual School Project. In the coming year, we will begin referring to this project as the World Digital School Project indicative of a shift in purpose away from facilitating readiness for virtual learning toward a purpose focused on innovative digital systems to assure safety, security, and innovation for learning.

The conversations and generation of this White Paper were informed by the review and reading of the following resources. Additional sources cited in this paper are hyperlinked to the original, and listed in the resource section of the appendix.

Yuval Noah Harari - 21 Lessons for the 21st Century

KnowledgeWorks - Navigating the Future of Learning

KnowledgeWorks - Five Case Studies

Robert Evans - Change is What it Means (adapted from Seven Secrets of the Savvy School Leader)

Will Richardson - One Foot in the Future

Will Richardson - Five Themes for Educators in 2023

Will Richardson - Nine Big Questions Schools Must Answer to Avoid Going "Back to Normal" (Because "Normal" Wasn't That Great to Begin With)

THREE GOALS FOR THE WORLD DIGITAL SCHOOL PROJECT

GOAL 1: HELP SCHOOLS CREATE AND SUSTAIN ROBUST, RESILIENT, AND SECURE SYSTEMS

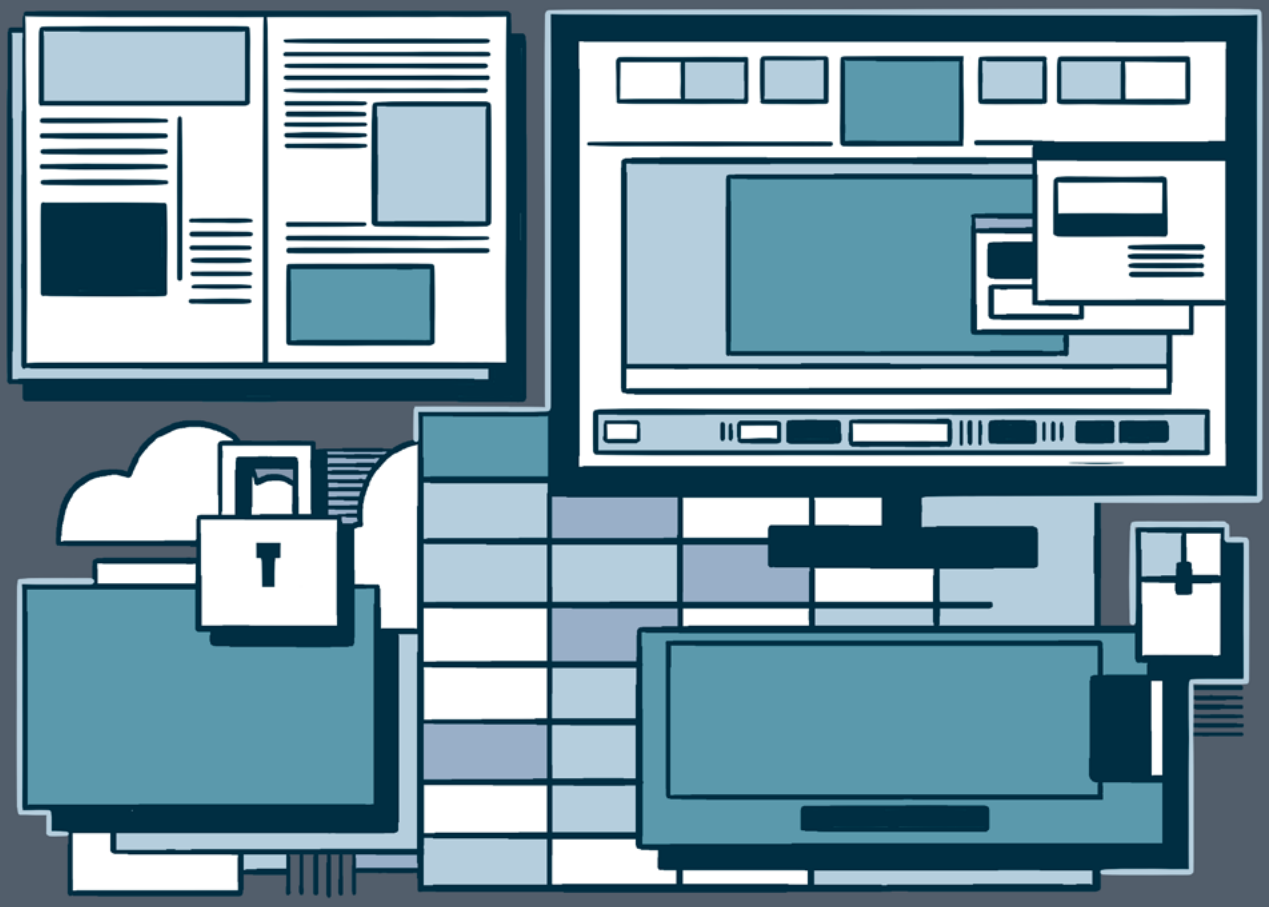
Strong systems, such as communications, operations, and security systems help mitigate risk and build success. The project will help schools **create and sustain strong systems** in order to ensure continuity of instruction.

Mitigating risks from cybersecurity threats is a high priority for schools. Keith Kruger of the Consortium for School Networking noted "Cybersecurity is the top concern of district IT leaders. Yet, when we ask if (school) districts have the human capacity to address cybersecurity, they clearly do not." (ref) Schools need advice and assistance to improve their defense systems against cyber attacks and maintain a proactive approach to managing cybersecurity risks. The project will help raise awareness and understanding of the risks as well as to change the behaviors that put member schools at risk of phishing, ransomware and other online attacks. We will provide resources for school leaders including publications, connections with experts, and professional development opportunities to help build strong systems. We will encourage a Continuous Risk Management approach to address this ever-evolving threat landscape and help support a strong digital infrastructure.

Schools need to be prepared to **shift back into the style of virtual learning** that we experienced during the COVID shutdowns. Regardless of whether the next school closure is caused by a new pandemic, a military action, or a natural disaster, we need to keep our Continuity of Learning plans up to date. It's critical that we don't forget the lessons we learned. We all engaged in innovative pedagogical practice which we should learn from and continue. For example, we can connect students to experts or to other schools using the video conferencing technologies that we all became more familiar with. The project will help schools apply those lessons to enhance blended learning in any mode, whether virtual, hybrid or in-person. Changes in **legality of storage and use of personally-identifiable information** can pose a challenge for school leaders. The complexity of compliance with data privacy and protection laws is increasing. The project will help connect school leaders with expertise to navigate these challenges, in some cases by partnering with third-party vendors or negotiating discounts for project members. Where there are freely available tools or resources from the US Government, we will help promote those and ensure that the resources are available to member schools so that they can keep their systems strong.

Recommendations for schools to create and sustain strong systems:

- Maintain an up-to-date Continuity of Learning Plan. The guiding documents that helped your school get through the COVID pandemic can be put to use during the next emergency if they are kept up to date. Revise them to include what your school learned during the pandemic and keep them updated as new technologies change the way we teach and learn. The plan should include disaster recovery, restoration of critical systems, and contingencies for continued learning in the event of any crisis where children or faculty must be remote.
- Ensure that teachers and students are prepared for virtual learning. The software we relied on during virtual learning has continued to evolve. Ensure all stakeholders remain informed, adept, and engaged with current and new features in virtual learning technologies. For example, video conferencing is a powerful new tool for blended learning, and by including it in regular learning, we'll stay up to date on the new features of these tools.
- Continue virtual learning as a practice. Schools can leverage their capacity to be virtual by using blended learning pedagogical practices in meetings and professional development. Virtual learning days can be used to maintain continuity of operations when interruptions such as inclement weather occur. Embed virtual learning days in the calendar in the same way you might have fire drills. Depending on the age of the students or the needs of the school, these may be fully remote learning days where students and teachers stay home or they might be in-person regular contact days each year where people intentionally practice the systems they'll need to use in the event of a school closure.
- Conduct tabletop exercises where the school's leadership team imagines ways of responding to various threats. The more planning schools can do in advance of an emergency, the more efficiently they can respond during a crisis.
- Develop a comprehensive and proactive cybersecurity and data privacy plan that includes technology infrastructure, procedures, and training. Develop and practice cyber incident response plans to minimize the impact of potential cybersecurity breaches. Maintain compliance with local data privacy laws. Provide adequate cybersecurity training to your school's technology staff, including frequent refresher sessions. Adopt a proactive approach to managing cybersecurity risk.
- **Identify the most critical risks and apply effective mitigations** such as multi-factor authentication, robust password policies, phishing prevention, and regular software updates.
- Help raise the awareness of cybersecurity and **reduce risk by providing training to all members of the community**, not just the technology department. Teach students, parents and teachers how to protect themselves from online threats. Conduct phishing attack simulations and use the results to increase awareness of ways to identify threats.
- Where possible, reduce your security burden by **migrating to secure cloud environments and trusted managed services.**



GOAL 2: HELP SCHOOLS REMAIN AGILE AND FLEXIBLE IN THE FACE OF CHANGE

In today's rapidly evolving technology landscape, schools must embrace agility and flexibility in order to remain relevant. Schools must ensure their curricula and pedagogy take into account the powerful digital tools students can now easily access and use. At the same time, our students are facing a mental health crisis which is likely being exacerbated by their use of technology (ref). According to the Youth Risk Behaviour Surveillance System (YRBSS) of the Centres for Disease Control and Prevention (CDC), in the decade preceding the pandemic, feelings of persistent sadness and hopelessness, as well as suicidal thoughts and behaviours, increased by roughly 40% among young people. (ref) Our students need help navigating social media, mental health, truth, bias, and artificial intelligence. Our schools need to remain resilient.

As we face existential challenges in education, 2023 presents a pivotal moment to reevaluate and articulate new missions and visions. The next threats to schools may be less obvious than military coups or global pandemics. Schools will need to adjust their pedagogy and build new curricula to address ethics and the rise in the deliberate distortion of information to serve a particular agenda, ideology, or personal benefit. Students need new skills and understanding to determine truth and bias, recognize deep fakes and misinformation, practice common sense online, and investigate the ethics of the use and creation of AI tools.

The currently uneven adoption of AI among schools and teachers underscores the need for a forward-looking approach ensuring that every decision made aligns with a vision for learning and empathy for the student experience. Schools that stubbornly refuse to reconsider their priorities, systems, and programs or that focus narrowly on how to prevent cheating will underserve their students in the very near future.

The World Digital School Project (WDSP) will help schools with the challenges of using artificial intelligence in the classroom, teaching digital citizenship and new technology skills, and improving media literacy. Our schools also have a responsibility to educate parents about these new literacies. In the words of Will Richardson, "Individual educators and school communities must now learn and employ new strategies for separating fact from fiction, determining truth, and creating and contributing knowledge in ethical and effective ways. The very nature of literacy is in question." (ref)

Recommendations for schools to remain agile and flexible:

- Address the growing issues of **mental health, cybersecurity, and digital citizenship.** Ensure that adequate time is allocated to addressing these important topics. Provide education and resources to parents and teachers as well as students.
- Adjust the curriculum, pedagogy, and assessment to ensure **new digital tools translate into higher levels of student work and thinking.**
- Innovate and ensure that technology and systems are human-centered, resilient, agile, scalable, sustainable, and safe, and designed to empower and educate users.
- Design **systems and plans that are dynamic,** and revise them frequently.
- Develop a strategic plan to address the issues of **artificial intelligence in the classroom.** Ensure that the voices of teachers, students and parents are heard in the development and implementation of the plan.
- Engage students in exploring the **potential ethical and moral implications of AI.**

The WDSP will gather and share exemplary strategic plans, curriculum documents and other resources from schools that are addressing these recommendations. WDS representatives will be working with schools and presenting at regional conferences to share thinking.

In addition, the WDS Project itself will remain agile and flexible by measuring success and staying responsive. In order to stay on top of emerging trends and remain in touch with the needs of our regions, we will engage in frequent data collection, gather feedback from schools and ensure that the WDS Project's goals remain aligned with the current needs of our member schools as they evolve.

GOAL 3: BUILD PROFESSIONAL DEVELOPMENT TO ACCOMPLISH THE FIRST TWO GOALS

Strong technology leadership in education is more important than ever. The WDSP will help build professional development for technology leaders.

The USA's Cybersecurity & Infrastructure Security Agency (CISA) recently reported: "Information sharing and collaboration with peers and partners is essential to build awareness and sustain resilience." (ref) WDSP member schools are part of a strong information-sharing forum with access to shared documents, best practice guidelines, and a professional learning network of thought partners with similar needs and interests.

The regional WDSP representatives advise our local professional development organizations on the latest trends in technology and the emerging threats to schools so that they can address these issues in their in-person conferences and regional learning events. We provide global learning opportunities through webinars, sharing the recordings of live events as videos. These recordings will also be edited into audio podcasts or transcribed into written summaries.

We help promote diverse perspectives and backgrounds in the field of educational technology leadership, developing a pipeline to help technology teachers, coordinators or coaches grow into technology directors.

We publish original articles from members, collect exemplary documentation, design curriculum, and share the best thinking from our member schools so that all our schools can benefit. We function as a research and development group to identify and promote strategies that work.

We cultivate mentoring opportunities for technology leaders, including job-alike sessions and school visits and provide funding to regional directors to support meetings, conferences, and training to build strong technology leadership.

Recommendations for school technology leaders:

- Partner with local and regional schools to share ideas and learn from each other. Attend in-person conferences and online webinars. Help contribute to the conversations on online forums for school technology leaders.
- Publish your best work with a creative commons license and share it widely so that others can borrow from and learn from your examples.
- Contribute to the WDSP surveys and to R&D projects to help communicate local trends to your regional representatives.
- Act as a mentor to other current or aspiring technology leaders, sharing your expertise and helping them grow into their role.

WORLD DIGITAL SCHOOL PROJECT STRUCTURE AND PROCESS

The WDS Project engages more than a hundred schools from around the world. It is led by the Global Project Coordinator who works closely with the Regional Education Officer appointed to the project by the US Department of State. Each of the eight regional councils enlists the support of a WDSP Representative (as listed on Page 4) to help coordinate regional priorities and needs. They guide regional activities and conversations to advance the project's purpose and priorities. In addition, the representatives participate in an annual global gathering to review, update, and enhance the World Digital School Project's White Paper.

What do the Regional Representatives and Global Coordinator do?

Responsibilities of the Regional WDSP Representative

- Attend global meetings of the WDS Project, representing the needs of the schools in their region. This is specifically the annual in-person meeting during Project AERO, but may also include online meetings throughout the year as needed.
- Coordinate a quarterly meeting of the WDSP regional technology leads to coordinate and align regional conversations and actions.
- Present or co-present workshops at regional events to help achieve the goals of the project or advance understanding of the project's goals.
- Administer or analyze surveys to collect data from regional school leaders to help set project goals.
- Collect documentation from regional schools to share globally or summarize in ways that help the project's goals. For example, if schools are requesting help understanding best practices in network security, it may be useful to determine which schools are having success in that area and asking for their policy documents or protocol guidelines. Schools might benefit from reading exemplar documents, or they might benefit most if those exemplars are summarized into specific white papers on the topic.
- Communicate with their regional Executive Director, the Global Project Coordinator and Regional Education Officer to ensure alignment of regional priorities with global goals and directions.
- Contribute to written publications, ensuring that documents, such as this white paper, remain up to date.

Responsibilities of the Global WDS Project Coordinator

- Lead global meetings of the WDS Project. This is specifically the annual in-person meeting during Project AERO, but may also include online meetings throughout the year as needed..
- Act as a primary author on documents such as this annual white paper and ensure that such documents are kept up to date.
- Coordinate regional meetings, ensuring that each region has a representative attending. Communicate regularly during the year with Regional Representative
- Maintain and administer membership lists, email lists, web domains, shared document drives, etcPresent or co-present workshops to help achieve the goals of the project or advance understanding of the project's goals.
- Lead the development and distribution of surveys and consolidate survey data, looking for global trends.
- Consolidate or summarize documentation collected by regional representatives, establishing a central repository for sharing documentation.
- Communicate with the Regional Education Office and regional Executive Directors to ensure alignment of regional priorities with global goals and directions.

Conversation and planning at the global level facilitates the elucidation of shared challenges, opportunities, and resources. Regional meetings and conversations invite a broader range of perspectives and voices, and allow for greater attendance and participation. Further, they allow for the necessary autonomy of councils and school leaders to be responsive to specific situations, events, or developments.

CONCLUSION

The above outlined digital priorities for international schools, encompassing safety, security, learning innovation, and technology leadership, pave a promising path for the continued improvement of instruction and operations in our international schools. By prioritizing safety and security measures, institutions can create nurturing environments where students and educators thrive with a sense of belonging and connectedness. These technological enhancements not only protect physical and digital assets but also contribute to a sense of well-being and trust within our school communities.

Further, embracing learning innovation and technology leadership offers the necessary opportunity to *evolutionize* education methods enabling personalized learning experiences that cater to diverse student needs. Integrating leading-edge technologies into classrooms fosters access to learning for all students, engagement, creativity, and critical thinking, while educators develop the skills to navigate this dynamic landscape. As international schools continue to adapt and evolve, their commitment to these priorities fosters a future where technology empowers both students and educators, shaping global learning leaders equipped to address the challenges and opportunities of our rapidly changing world.

APPENDIX

RESOURCES TO EXPAND THINKING AND VISION

One of the ways the World Digital School Project will help accomplish our goals is to curate and share excellent resources which provide professional learning for technology leaders. We hope that these resources will help member schools mitigate threats, remain agile, and build strong systems.

CYBERSECURITY

US Department of Education Office of Educational Technology, K-12 Digital Infrastructure Briefs:

- Defensible and Resilient
- Adequate and Future Proof
- Privacy Enhancing, Interoperable, and Useful

Protecting Our Future: Partnering to Safeguard K-12 Organizations from Cybersecurity Threats (2023). A report from the Cybersecurity and Infrastructure Security Agency of the US government. CISA gives key findings and specific recommendations to K-12 school technology leaders on ways to mitigate risks.

K-12 Cybersecurity Guidebook from Google Public Policy. (Aug 2023). Google developed a guidebook for schools with best practices to help school IT administrators prepare to return to the 23-24 school year safely.

Cybersecurity articles from the World Economic Forum. The WEF curates a useful set of resources focused on internet governance and security issues.

World Economic Forum: The Cybersecurity Guide for Leaders in Today's Digital World This guide is intended for senior executives who are responsible for setting and implementing the strategy and governance of cybersecurity and resilience in their organization. Cybersecurity is everyone's responsibility in an organization, not solely of the Chief Information Security Officer.

ARTIFICIAL INTELLIGENCE IN EDUCATION

Artificial intelligence and the future of teaching and learning. U.S. Department of Education, Office of Educational Technology. (2023). Experts from the US Government give a well-reasoned list of advice to software developers, teachers, and school administrators on the best ways to use AI in education.

AI and Education: Guidance for Policy-makers: (2021) UNESCO's mandate calls inherently for a human-centred approach to AI. It aims to shift the conversation to include AI's role in addressing current inequalities regarding access to knowledge, research and the diversity of cultural expressions and to ensure AI does not widen the technological divides within and between countries.

AI in Learning: Designing the Future (2023) Researchers from the USA, Finland and China analyze the impact of artificial intelligence on education, policymaking, and governance.

Sal Khan's TED Talk: How AI could save (not destroy) education. Khan thinks A.I could spark the greatest positive transformation education has ever experienced. He argues the opportunities for students and educators to collaborate with A.I. tools – including the potential of a personal A.I. tutor for every student and an A.I. teaching assistant for every teacher – and demonstrates features for the educational chatbot, Khanmigo.

The Impact of Artificial Intelligence on Learning, Teaching, and Education A report by the EU Joint Research Center on the potential impact of AI on learning, teaching, and education. It provides conceptual foundations for well-informed policy-oriented work, research, and forward-looking activities that address the opportunities and challenges created by recent developments in AI.

Ethical Guidelines on the use of AI and data in teaching and learning for Educators (2022) A report from the EU as part of their policy initiative to support the sustainable and effective adaptation of the education and training systems of EU Member States for the digital age.

Articles from global design firm IDEO:

AI Needs an Ethical Compass. This tool can help (2019)

A Legal and Ethical Framework For Gen AI (2023)

DIGITAL CITIZENSHIP AND MEDIA LITERACY

The Art of Screen Time: How Your Family Can Balance Digital Media and Real Life, by Anya Kamenetz. Kamenetz provides advice to parents and teachers about ways to navigate the complex demands of technology and screens at home and in schools.

Antisocial: Online Extremists, Techno-Utopians, and the Hijacking of the American Conversation by Andrew Marantz. A writer for the New Yorker examines the role social media plays in politics, including a powerful exploration of the spread of fringe ideas and online radicalization.

Common Sense Education is an extensive resource with media ratings, software reviews, and classroom resources. Their Digital Citizenship Curriculum has research-backed lesson plans to help schools navigate timely topics such as cyberbullying, online safety, privacy, and media literacy.

Kids' mental health is in crisis. Here's what psychologists are doing to help. (2023), by Zara Abrams, in the APA Monitor on Psychology. An in-depth report on the latest research on child and teen mental health.

The Youth Risk Behavior Surveillance System (YRBSS) is a set of surveys from the Centers for Disease Control and Prevention that track behaviors that can lead to poor health in students grades 9 through 12.

ADDITIONAL RESOURCES

Digital Literacy, Including Artificial Intelligence

Cybersecurity - K-12

Professional Development for Technology Leaders

EDUCATIONAL TECHNOLOGY AND PEDAGOGY

Learning First, Technology Second in Practice *(2020) by Liz Kolb.* Kolb describes a framework for educators to measure how well technology tools integrated into lessons are helping students engage in, enhance and extend learning goals.

Harnessing Technology for Deeper Learning: a Quick Guide to Educational Technology Integration and Digital Learning Spaces.(2018) McLeod and Graber briefly summarize the history of educational technology, critically examine common practices in schools and offer clear solutions for impactful use of technology for learning.

Five Themes for Educators in 2023 (2023) by Will Richardson. Richardson describes the most important themes for the increasingly urgent conversations about the future of education.

PROFESSIONAL DEVELOPMENT RESOURCES FOR TECHNOLOGY LEADERS

International Schools Tech Director Forum. A collaborative space for school technology directors and other school technology leaders to ask questions and learn from each other.

ISTE's Professional Learning Network - Online professional learning network, which brings together educators from around the world with shared interests.

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World Digital School Project

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